

## **REMARKS**

Claims in the case are 1-17. Claims 1, 6, 8-10, 12 and 17 have been amended herein. No Claims have been added, and no Claims have been cancelled herein.

Enclosed herewith are two appendices. Appendix-I contains a Terminal Disclaimer relative to United States Patent No. 6,441,068 B1, which will be discussed further herein. Appendix-II contains a declaration signed by Dr. Eckel, which will be discussed further herein.

Claims 1-11 and 15-17 stand rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1-13 of United States Patent No. 6,441,068 B1 (**Eckel '068**). This rejection is respectfully traversed in light of the following remarks.

A Terminal Disclaimer relative to Eckel '068 is being filed herewith. See Appendix-I.

The Terminal Disclaimer is deemed by Applicants to obviate the rejection of Claims 1-11 and 15-17 under the judicially created doctrine of obviousness-type double patenting over Claims 1-13 of Eckel '068. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1, 6, 8-10, 12 and 17 stand rejected under 35 U.S.C. §112, second paragraph. This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Claims 1, 8-10, 12 and 17 have been amended to include proper Markush language. Component-(C) of Claim 6 has been amended to include proper Markush language by replacing the term "comprising" with --consisting--.

Claim 8 has been further amended to replace "derivatives of unsaturated carboxylic acids" with --anhydrides of unsaturated carboxylic acids, imides of unsaturated carboxylic acids--. Basis for this amendment to Claim 8 is found at page 13, lines 23-25 of the specification.

Claim 8 has been further amended to replace "EP(D)M rubber" with --ethylene-propylene rubber, ethylene-propylene-diene rubber--. Basis for this amendment to Claim 8 is found at page 14, lines 4-7 of the specification.

Claim 17 has been further amended to improve the clarity of the recitation relative to second vinyl monomer B.1.2. In particular, the terms "which" and "may be selected," have been deleted in Claim 17 relative to recitation of vinyl monomer B.1.2.

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to particularly point out and distinctly claim the subject matter which they regard as their invention. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-17 stand rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being obvious over WO 99/07782, and its English language equivalent United States Patent No. 6,569,930 B1 (collectively, **Eckel '930**). This rejection is respectfully traversed with regard to the following remarks.

Eckel '930 discloses flame resistant thermoplastic molding compositions that include a specifically structured phosphorous compound. See the abstract and column 2, line 26 through column 3, line 11 of Eckel '930.

The polycarbonate composition of Applicants' claims includes a phosphorous compound, represented by their formula (I), which contains less than 1 percent by weight of isopropenylphenyl phosphate (hereinafter referred to as "IPP") contaminant, based on the weight of the phosphorous compound represented by formula (I). See Applicants' Claim 1.

Applicants submit that prior to their present invention, phosphorous compounds according to their formula (I) contained more than 1 percent by weight of IPP contaminant. Attention is directed to the declaration and the comparative data included herewith in Appendix-II. The data of Applicants' declaration demonstrate that commercially available phosphorous compounds falling under Applicants' formula-(I), which are deemed to be representative of the state of the art prior to Applicants' invention, had IPP levels of greater than 1 percent by weight, e.g., 2.5 percent by weight, 9.9 percent by weight and 15.5 percent by weight.

With regard to the declaration included herewith and the preceding remarks, it is respectfully submitted that Eckel '930 does not disclose, teach or suggest polycarbonate compositions that include a phosphorous compound according to Applicants' formula-(I) which contain less than 1 percent by weight of IPP.

In light of the preceding remarks, Applicants' claims are deemed to be unanticipated by, and unobvious and patentable over Eckel '930. Reconsideration and withdrawal of these rejections is respectfully requested.

Claims 1-17 stand rejected under 35 U.S.C. §102(e) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being obvious over Eckel '930. This rejection is respectfully traversed in light of the following remarks.

As discussed previously herein, Eckel '930 discloses flame resistant thermoplastic molding compositions that include a specifically structured phosphorous compound. See the abstract and column 2, line 26 through column 3, line 11 of Eckel '930.

The polycarbonate composition of Applicants' claims includes a phosphorous compound, represented by their formula (I), which contains less than 1 percent by weight of IPP contaminant, based on the weight of the phosphorous compound represented by formula (I). See Applicants' Claim 1.

Applicants submit that prior to their present invention, phosphorous compounds according to their formula (I) contained more than 1 percent by weight of IPP contaminant. Attention is directed to the declaration and the comparative data included herewith in Appendix-II. The data of Applicants' declaration demonstrate that commercially available phosphorous compounds falling under Applicants' formula-(I), which are deemed to be representative of the state of the art prior to Applicants' invention, had IPP levels of greater than 1 percent by weight, e.g., 2.5 percent by weight, 9.9 percent by weight and 15.5 percent by weight.

With regard to the declaration included herewith and the preceding remarks, it is respectfully submitted that Eckel '930 does not disclose, teach or suggest polycarbonate compositions that include a phosphorous compound according to Applicants' formula-(I) which contain less than 1 percent by weight of IPP.

In light of the preceding remarks, Applicants' claims are deemed to be unanticipated by, and unobvious and patentable over Eckel '930. Reconsideration and withdrawal of these rejections is respectfully requested.

Claims 1-17 stand rejected under 35 U.S.C. §102(e) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Eckel '068. This rejection is respectfully traversed in light of the following remarks.

Eckel '068 discloses a flame-resistant thermoplastic molding composition that includes a phosphorous compound (D). See the abstract and column 1, line 55 through column 2, line 41 of Eckel '068.

As discussed previously herein, the polycarbonate composition of Applicants' claims includes a phosphorous compound, represented by their formula (I), which contains less than 1 percent by weight of IPP contaminant, based on the weight of the phosphorous compound represented by formula (I). See Applicants' Claim 1.

Applicants submit that prior to their present invention, phosphorous compounds according to their formula (I) contained more than 1 percent by weight of IPP contaminant. Attention is directed to the declaration and the comparative data included herewith in Appendix-II. The data of Applicants' declaration demonstrate that commercially available phosphorous compounds falling under Applicants' formula-(I), which are deemed to be representative of the state of the art prior to Applicants' invention, had IPP levels of greater than 1 percent by weight, e.g., 2.5 percent by weight, 9.9 percent by weight and 15.5 percent by weight.

With regard to the declaration included herewith and the preceding remarks, it is respectfully submitted that Eckel '068 does not disclose, teach or suggest polycarbonate compositions that include a phosphorous compound according to Applicants' formula-(I) which contain less than 1 percent by weight of IPP.

In light of the preceding remarks, Applicants' claims are deemed to be unanticipated by, and unobvious and patentable over Eckel '068. Reconsideration and withdrawal of these rejections is respectfully requested.

Claims 1-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Eckel '930 in view of United States Patent No. 3,919,353 (**Castelnuovo et al**). In light of the following remarks, this rejection is respectfully traversed.

Eckel '930 has been discussed previously herein, and discloses flame resistant thermoplastic molding compositions that include a specifically structured phosphorous compound. Castelnuovo et al discloses thermoplastic polyester molding compositions that include a graft polymer having a graft base having a Tg of less than 0°C. See the abstract of Castelnuovo et al. Castelnuovo et al does not disclose or suggest the presence of a phosphorous compound in their compositions according to Applicants' formula-(I).

As discussed previously herein, the polycarbonate composition of Applicants' claims includes a phosphorous compound, represented by their formula (I), which contains less than 1 percent by weight of IPP contaminant, based on the weight of the phosphorous compound represented by formula (I). See Applicants' Claim 1.

Applicants submit that prior to their present invention, phosphorous compounds according to their formula (I) contained more than 1 percent by weight of IPP contaminant. Attention is directed to the declaration and the comparative data included herewith in Appendix-II. The data of Applicants' declaration demonstrate that commercially available phosphorous compounds falling under Applicants' formula-(I), which are deemed to be representative of the state of the art prior to Applicants' invention, had IPP levels of greater than 1 percent by weight, e.g., 2.5 percent by weight, 9.9 percent by weight and 15.5 percent by weight.

With regard to the declaration included herewith and the preceding remarks, it is respectfully submitted that Eckel '930 and Castelnuovo et al, either alone or in combination, do not disclose, teach or suggest polycarbonate compositions that include a phosphorous compound according to Applicants' formula-(I) which contain less than 1 percent by weight of IPP.

In light of the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Castelnuovo et al. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-17 stand rejected under 35 U.S.C. §102(a) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being obvious over Offenlegungsschrift Aktenzeichen DE 198 53 105.2 (**Eckel '105.2**). This rejection is respectfully traversed with regard to the following remarks.

Eckel '105.2 disclose a flame resistant polycarbonate-ABS composition that includes a phosphorous compound represented by their formula (I). See the abstract and page 2, lines 33-62 of Eckel '105.2.

As discussed previously herein, the polycarbonate composition of Applicants' claims includes a phosphorous compound, represented by their formula (I), which contains less than 1 percent by weight of IPP contaminant, based on the weight of the phosphorous compound represented by formula (I). See Applicants' Claim 1.

Applicants submit that prior to their present invention, phosphorous compounds according to their formula (I) contained more than 1 percent by weight of IPP contaminant. Attention is directed to the declaration and the comparative data included herewith in Appendix-II. The data of Applicants' declaration demonstrate that commercially available phosphorous compounds falling under Applicants' formula-(I), which are deemed to be representative of the state of the art prior to Applicants' invention, had IPP levels of greater than 1 percent by weight, e.g., 2.5 percent by weight, 9.9 percent by weight and 15.5 percent by weight.

With regard to the declaration included herewith and the preceding remarks, it is respectfully submitted that Eckel '105.2 does not disclose, teach or suggest polycarbonate compositions that include a phosphorous compound according to Applicants' formula-(I) which contain less than 1 percent by weight of IPP.

In light of the preceding remarks, Applicants' claims are deemed to be unanticipated by, and unobvious and patentable over Eckel '105.2. Reconsideration and withdrawal of these rejections is respectfully requested.

Claims 1-17 stand rejected under 35 U.S.C. §102(b) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being obvious over European Patent Application No. EP 0 771 851 A2 (**Gaggar et al**). This rejection is respectfully traversed in light of the following remarks.

Gaggar et al disclose a flame retardant polycarbonate blend that includes aromatic polycarbonate resin and a phosphate (phosphoric ester). See the abstract and page 5, line 45 through page 6, line 54 of Gaggar et al.

As discussed previously herein, the polycarbonate composition of Applicants' claims includes a phosphorous compound, represented by their formula (I), which contains less than 1 percent by weight of IPP contaminant, based on the weight of the phosphorous compound represented by formula (I). See Applicants' Claim 1.

Applicants submit that prior to their present invention, phosphorous compounds according to their formula (I) contained more than 1 percent by weight of IPP contaminant. Attention is directed to the declaration and the comparative data included herewith in Appendix-II. The data of Applicants' declaration demonstrate that commercially available phosphorous compounds falling under Applicants' formula-(I), which are deemed to be representative of the state of the art prior to Applicants' invention, had IPP levels of greater than 1 percent by weight, e.g., 2.5 percent by weight, 9.9 percent by weight and 15.5 percent by weight.

With regard to the declaration included herewith and the preceding remarks, it is respectfully submitted that Gaggar et al does not disclose, teach or suggest polycarbonate compositions that include a phosphorous compound according to Applicants' formula-(I) which contain less than 1 percent by weight of IPP.

In light of the preceding remarks, Applicants' claims are deemed to be unanticipated by, and unobvious and patentable over Gaggar et al. Reconsideration and withdrawal of these rejections is respectfully requested.

Claims 1-5 and 10-14 stand rejected under 35 U.S.C. §102(b) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being obvious over United States Patent No. 4,246,169 (**Norris et al**). This rejection is respectfully traversed with regard to the following remarks.

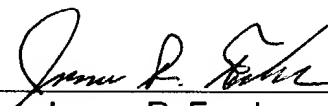
Norris et al disclose plastics containing flame-retardant phosphorous materials (abstract). It is argued on page 6 of the Office Action of September 17, 2003 that Norris et al disclose Applicants' present composition with reference to column 18, lines 61-62 (relating to polycarbonates), and more particularly to column 23, structure (B) and the table of column 24 (relating to phosphorous compounds). Applicants respectfully disagree.

The phosphorous compounds of Applicants' claims are polymeric. Subscript N of Applicants' formula-(I) is 0.1 to 5 (not zero, i.e., not monomeric). See Applicants' Claim 1. The phosphorous compounds of Norris et al cited in the Office Action are monomeric (not polymeric). As such, Norris et al does not disclose or suggest the polycarbonate compositions of Applicants' present claims.

In light of the preceding remarks, Applicants' claims are deemed to be unanticipated by, and unobvious and patentable over Norris et al. Reconsideration and withdrawal of these rejections is respectfully requested.

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to meet all the requirements of 35 U.S.C. §112, and to define an invention that is unanticipated, unobvious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

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**APPENDIX-I**

Terminal Disclaimer

Relative to United States Patent No. 6,441,068 B1 (Eckel '068)



**THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of  
THOMAS ECKEL ET AL

Art Unit: 1714

Examiner:

Serial No.: 09/911,268

Tae H. Yoon

Filed: July 23, 2001

For: FLAME RESISTANT POLYCARBONATE COMPOSITIONS

TERMINAL DISCLAIMER

Petitioner, Bayer Aktiengesellschaft is the owner of 100 percent interest in the instant application. The assignment from the inventor(s) or chain of title from the inventor(s), of the application identified above was recorded in the Patent and Trademark Office at Reel 012629, Frame(s) 0376. Petitioner hereby disclaims except as provided below the terminal part of the statutory term of any patent granted on the application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173 as shortened by any terminal disclaimer filed prior to the grant of U.S. Patent No. 6,441,068 B1, and hereby agrees that any patent so granted on the above-identified application shall be enforceable only for and during such period that the legal title to said patent be the same as the legal title to the above referenced application or patent, this agreement to run with any patent granted on the above-identified application and to be binding upon the grantee, its successors or assigns.

In making the above disclaimer, petitioner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 to 156 and 173, as presently shortened by any terminal disclaimer, of the above-listed application in the event that it later expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is otherwise terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer filed prior to the grant of the patent.

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MAY 24 2004

TC 1700

The undersigned has reviewed all the evidentiary documents accompanying or referred to in the instant Terminal Disclaimer and it is certified to the best of the undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed at Pittsburgh, Pennsylvania, this 8th day of March, 2004

Submitted By,

SIGNATURE:   
NAME (TYPED) James R. Franks

TITLE: Agent of Record  
Reg. No. 42,552

☒ I authorize you to charge the amount of ☐ \$55.00 (small entity)  
☒ \$110.00 (large entity) to Deposit Account Number 13-3848.

s/rmc/jrf/0192



**APPENDIX-II**

Declaration of Dr. Eckel

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**MAY 24 2004**

**TC 1700**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Thomas Eckel et al.  
Serial No. : 09/911,268  
Filed : July 23, 2001  
For : FLAME-RESISTANT POLYCARBONATE  
COMPOSITIONS  
Art Unit : 1714  
Examiner : Peter Szekely

RECEIVED  
MAY 24 2004  
TC 1700

DECLARATION

I, Thomas Eckel, residing at Pfauenstr. 51, 41540 Dormagen, Germany, declare as follows:

- 1) that I have the following technical education and experience:
  - a) I am a chemist having studied at the Phillips-Universität of Marburg, Germany, from 1978 to 1987,
  - b) I received the degree of doctor rer. nat. at the Phillips-Universität of Marburg in the year of 1987,
  - c) I am employed by Bayer AG since July 1987 in the Research Department especially handling polymer blends;
- 2) that the following tests were carried out under my immediate supervision and control:

The IPP content of the oligomeric bisphenol A phosphates listed below was determined by HPLC measurements with the following configuration:

instrument:	Hewlett Packard HP 1100
type of column:	Li Chrosorp RP-8
column temperature:	40°C
gradient elution agent:	acetonitrile/water 50:50 to 100:0
concentration of phosphate in eluent:	5 mg/ml
run time:	38 min

The IPP content is then calculated (as area %) from the relative proportions at the defined retention time.

All investigated BDP samples (both as used in the present invention and comparative) are commercially available products with the chemical name Bisphenol A bis (diphenylphosphate) with the CAS No 5945-33-5 or 181028-79-5.

The comparative products are:

- 1) Fyrolflex BDP from Akzo, lot 0964-67, 01.03.1999
- 2) CR 741 from Daihachi, lot K91101, 01.11.1997
- 3) CR 741 from Daihachi, lot 10801, 28.08.1999

These comparative samples of Bisphenol A bis (diphenylphosphate) (see above) have been obtained prior to the invention of LeA 34675 (see dates of analysis).

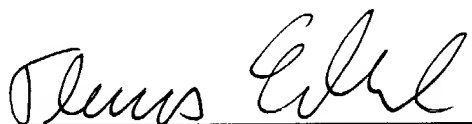
The BDP sample used in the present invention is a representative Bisphenol A bis (diphenylphosphate), commercially available under the tradename NcendX P-30 from Albemarle.

All samples were analyzed under the same conditions and in the same manner using the method mentioned above.

The following IPP contents were found:

- |    |                     |           |
|----|---------------------|-----------|
| 1) | Akzo, Fyrolflex BDP | IPP=9,9%  |
| 2) | Daihachi, CR 741    | IPP=15,5% |
| 3) | Daihachi, CR 741    | IPP=2,5%  |
|    | NcendX P-30         | IPP=0,1%  |

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

A handwritten signature in black ink, appearing to read "Thomas Eckel", is written over a horizontal line.

THOMAS ECKEL

Signed at Dormagen, this 2. day of March, 2003.